CALFED WATER USE EFFICIENCY PROGRAM
GRANT PROPOSAL FOR URBAN PROJECT

1. X Urban Projects X Joint Application
2. Four Projects for Sacramento Area Water Use Efficiency
3. San Juan Water District, applying on behalf of the water purveyor signatories to the Water Forum Agreement
4. Contact: Charles Pike, Regional Water Efficiency Manager
5. Address: 9935 Auburn Folsom Road Granite Bay, CA 95746
6. Telephone: 916-791-2663
7. Fax: 916-791-0164
8. Email: cpike@sjwd.org
9. Funds requested:
   - A. Meter Retrofit of Unmetered Accounts $6,527,600
   - B. Regional Water Efficiency Manager $300,560
   - C. Water Efficiency Training $173,700
   - D. Regional Meter Testing Evaluation $30,000
10. Applicant cost share funds pledged:
    - A. Meter Retrofit of Unmetered Accounts $9,309,000
    - B. Regional Water Efficiency Manger $300,560
    - C. Water Efficiency Training $19,530
    - D. Regional Meter Testing Evaluation $1,000
11. Duration: July 2001 through June 2004
12. State Assembly Districts: 4, 5, 8, 9 and 10
    State Senate Districts: 1, 4, 5 and 6
    Congressional Districts: 3, 4 and 5
13. Geographic Location: The project is located in the greater Sacramento area, encompassing Sacramento County, and portions of Placer County as defined by the service areas of the Water Forum Signatories.
14. Name and signature of official representing applicant. By signing below, the applicant declares the following:

— truthfulness of all representations in the proposal;
— individual signing the form is authorized to submit the application on behalf of the applicant; and
— applicant will comply with contract terms and conditions identified in Section 11 of this PSP.

_____ _____
(Printed name of applicant) *(Date)*

_____
(Signature)

SECTION B
Scope of Work

Relevance and Importance
B.1 Abstract Executive Summary
San Juan submits this proposal to strongly support the ecosystem quality and water supply objectives of the CALFED Bay-Delta program. This proposal combines four projects into one funding request. All four projects are fundamental tasks required by Sacramento water interests to meet the Conservation Element of the Water Forum (WF) Agreement. The four projects target basic needs to develop effective future water use efficiency projects as outlined in the WF Agreement, which became effective in January 2000.

Projects include:

a. Meter retrofit of unmetered accounts - BMP 4
Our goal is to obtain a cost share for the purchase and installation of 28,780 residential meters at currently unmetered accounts. The requested grant money will support the project at the rate of $454 per meter. Up to 10 percent of the meters may be installed as dedicated landscape meters for CII customers.

b. Regional Water Efficiency Manager - CUWCC BMP 12
Obtaining cost share for the positions of Regional Water Efficiency Manager and City of Sacramento Water Conservation Manager will streamline the coordination of cost-effective and cooperative approaches in implementing the conservation element of the WF Agreement.

c. Water efficiency training BMPs 5, 9, 12
San Juan expects to provide this training in full cooperation with the California Urban Water Conservation Council (CUWCC).

i. In order to facilitate effective water efficiency programs, Sacramento area water conservation staff will need to be trained. Training will require the development of a brochure and multi-media materials to promote executive understanding of water efficiency objectives on a statewide basis. Training will include a Sacramento-based Water Conservation Certification Level 1 training for water supplier staff and other water use professionals.

ii. Landscape irrigation is by far the largest use of urban water in the Sacramento area. To improve the design of urban landscapes and their irrigation efficiency, a series of comprehensive programs will involve all segments of the landscape industry. The initial project will provide training for landscape professionals to improve water efficiency services.

iii. Through workshops, conservation staff and consultants will be trained to implement Best Management Practices (BMP) 9 water efficiency principles, as outlined in CUWCC's forthcoming BMP 9 guidebook for commercial, industrial and institutional water efficiency. Workshops will present the basic marketing and cooperative requirements needed for effective programs conducted in coordination with energy and wastewater utilities.

d. Regional meter testing evaluation - BMP 3
In the near future, Sacramento area water suppliers will have 350,000 metered connections. A majority will be new meters constituting a new infrastructure requiring accurate wholesale, transmission interties, large commercial, and residential water-use measurements. Accurate meters are needed to evaluate the effectiveness of water efficiency programs and to monitor potential distribution system losses.

This project proposes a study to define the extent of the potential problems, identify alternative regional solutions and to estimate the cost of the alternatives to test, calibrate, and maintain-water measuring devices.

B.2 Statement of Critical Local, Regional, or State Water Issue

The WF Agreement is a major accord which includes17 Sacramento area water suppliers serving more than 756,000 acre-feet of water per year to more than 1.2 million people. This "area of origin" is projected to grow to 2,092,000 people demanding 855,000-acre feet per year by 2030. In meeting this future demand, the WF Agreement implementation will free up dry-year water supply that could be used to further CALFED's objectives to help the Bay Delta in terms of water quantity, flow and timing. The successful implementation is critical to increase water supply reliability through 2030 and provide measurable ecosystem restoration in the Lower American River and hence, the Bay Delta system. The WF negotiation process was comprised of a diverse group of business and agricultural leaders, citizens groups, environmentalists, water managers, and local governments in Sacramento County and adjacent areas of Placer and El Dorado Counties. See Appendix F.

During its seven-year development, WF information was well publicized throughout the entire region. Regular meeting with reporters generated ongoing newspaper, television and radio coverage of WF issues. Presentations at community group meetings throughout the region augmented publicity and outreach efforts. Following four years of intense research and negotiation, all parties agreed that a secure water future is dependent on implementing a comprehensive package of linked actions that will achieve two equal objectives:

Provide a reliable and safe water supply to support the region's economy and planned development to the year 2030; and

Preserve the fishery, wildlife, recreational and aesthetic values of the Lower American River.

These objectives are consistent with the promotion of CALFED water supply and ecosystem restoration objectives. Additionally, the water use efficiency programs will have the added benefit of reducing energy demand by water suppliers, customers and wastewater utilities.

Implementation of the WF efficiency measures has significant potential for benefits that deliver greater statewide value than local value.

Implementation of the WF Agreement requires seven complementary elements, including water efficiency, for the solution to be successful:

1) Increased surface water diversions.
2) Actions to meet customer needs while reducing diversion impacts on the Lower American River in drier years.
3) Improved flow pattern of fishery flow releases from Folsom Reservoir that more closely match the needs of an anadromous fish, in particular, the fall-run Chinook salmon. This requires updating the Lower American River flow standard with the US Bureau of Reclamation (USBR) and the State Water Resources Control Board.
4) Habitat management of the Lower American River, which also addresses recreation in the Lower American River.
5) Increased water conservation through installation of residential water meters; implementing the original 16 BMPs initially adopted by CUWCC and water conservation plans; public involvement; and agricultural water conservation. The WF agreement requires that each water purveyor monitor the progress of implementing all BMPs and submit annual reports.
6) Improved groundwater management by protecting Sacramento County groundwater resources, monitoring ground water withdrawals, and planning conjunctive use of surface and ground water.

During years of abundant runoff, surface water would be transported to users traditionally reliant upon ground water, thereby allowing natural replenishment of ground water supplies. During dry years, surface water for urban use would be withdrawn from accumulated ground water allowing available surface water to flow down the Lower American River and support fisheries and wildlife.

7) Continued organization and actions by WF signatories and the successor effort over the next 30 years.

This grant proposal is also consistent with regional water management plans in that the 1999 Environmental Impact Report (EIR) for the WF proposal was prepared pursuant to the California Environmental Quality Act (CEQA), Public Resources Code 12000 et seq., and State CEQA Guidelines, California Code of Regulations 15000, et seq. The EIR defines the direct study area as the in-stream resources from the Folsom Reservoir downstream through Lake Natoma, along the Lower American River to the confluence with the Sacramento River. The indirect study area includes the Sacramento River downstream of the American River confluence into and including the Sacramento-San Joaquin Delta.

Implementation of the entire WF Agreement will require enormous financial resources. Retrofit metering of the WF service area alone will cost more than $100 million. Implementation of other BMPs will cost substantially more.

The WF agencies involved are committed to completing the Water Use Efficiency Program described in this grant application if grant funding is received. Over the next three years, this program will install 28,780 meters, establish two new regional water efficiency manager positions, provide basic training to water supplier staff and the landscape industry and prepare for future distribution system water audits. Using the estimates from CUWCC, these projects may decrease water use by approximately 5,100 AFPY with savings increasing each year thereafter. These savings will free up real water to allow increased water supply reliability and ecosystem restoration. To achieve these savings, San Juan Water District, on behalf of the WF, requests grants to offset costs that are greater than the benefits received by the Sacramento region.

B.3 Nature, Scope and Objectives

This proposal combines four projects to implement water conservation elements of the WF Agreement.. The proposed projects provide basic building blocks to develop effective water efficiency programs that will aid the Sacramento area and can be modified elsewhere in California.

For all projects, the requested funding amounts and quarterly implementation schedule are shown in Appendix E – Budget Summary for Proposed Projects.

a. Meter retrofit of unmetered accounts - BMP 4

In their conservation plans, WF signatories plan to install more than 28,780 residential meters during the first three years of the WF implementation period. This project proposes to support the purchase and installation of 28,780 residential meters at currently unmetered accounts within the three-year CALFED contract period (July 2001-June 2004). The grant money will support the project at the rate of $454 per meter. The grant request applies only to the initial meter retrofit installation and purchase costs. The grant request does not cover the future costs of meter reading, establishment and administration of a database, billing, and meter maintenance. Up to 10 percent of the meters may be installed as dedicated landscape meters for CII customers. To qualify, potential participants have been required to:

i. sign the WF Agreement;
ii. submit a WF Water Conservation Plan as a water supplier;
iii. finance the costs of meter purchase and installation prior to CALFED grant reimbursement,
iv. confirm installation by providing evidence of two consecutive meter-reads and demonstrate the capability to provide customers with water usage in gallons-per-day.

The requested funding amounts are shown in Appendix E - Budget Summary for Proposed Projects.

b. Regional water efficiency manager - CUWCC BMP 12
The most cost-effective approach to implement water efficiency elements of the WF Agreement is a regional effort coordinated by regional water efficiency managers. Effective precedents of this approach are the regional programs of the San Diego County Water Authority, Sonoma County Water Agency, the Metropolitan Water District of Southern California, and Santa Clara Valley Water District. The most critical start-up cost is hiring a regional water efficiency manager.

San Juan Water District has initiated the regional effort to coordinate cooperative, cost-effective approaches to implement the conservation element of the WF Agreement. Since January 1, 2001, San Juan Water District has employed Charles Pike, a highly qualified regional water efficiency manager. Mr. Pike will eventually work with 17 utilities serving 200,000 customers.

To serve its 121,300 customers, the City of Sacramento interviewed (January 2001) applicants for a full-time Conservation Administrator. It is planned that the administrator will be employed by March 1, 2001. San Juan and City of Sacramento managers will work together with the WF signatories to implement the BMPs for efficient water use by residential, commercial, industrial and institutional customers. This project proposes funding 50 percent of the water efficiency manager salaries and benefits for three years.

Both of these positions will continue beyond the contract period. As described in Appendix P, "Cooperative Water Efficiency Plan" excerpts, the regional conservation manager will be responsible for implementing a cost-effective, cooperative BMP program resulting in the efficient use of water by residential, commercial, industrial, and institutional customers.

The requested funding amounts are shown in Appendix E.

c. Water efficiency training - BMPs 5, 9, 12

i. The large number of California water agencies that are not members of CUWCC and lack effective conservation programs reflects the need for a proactive approach. The Department of Health Services (DHS) reports there are more than 8,000 distribution systems statewide and the Department of Water Resources (DWR) identifies 440 agencies serving more than 3,000 AFPY or more than 3,000 connections. However CUWCC has only 170 water supplier members. These agencies represent the target audience.

In order to facilitate effective water efficiency programs, this project will provide basic training to Sacramento area water conservation staff. CUWCC will be invited to help present the training. CUWCC staff was contacted, but declined to confirm involvement with this project due to potential conflict of interest through participation in the CALFED review process.

Initially materials must be developed to gain the attention of water supplier top management, win their interest in effective demand management measures, and obtain a cost share for staff participation in the training classes. Developed multi-media materials (1,000 copies) and artwork will be shared with California organizations interested in sponsoring the training and promoting effective water efficiency. Please see Appendix D for details.

The second step consists of delivering Water Conservation Certification Level 1 training to water supplier staff and other water use professionals. Requested funding will be used to underwrite the cost of this intense two-day workshop covering state and regional water issues; efficiency measures for residential, commercial, industrial, and institutional customers;

landscape planning and irrigation principles; and program planning. The workshop presentation will be coordinated with CUWCC and/or other appropriate organizations.

Mr. Charles Pike of San Juan Water District will manage both parts of this training project. Mr. Pike helped develop and teach the Water Conservation Certification Level 1 training for the American Water Works Association (AWWA) and is intimately familiar with logistics needed to develop the promotional materials and present the class.

ii. Landscape irrigation is the largest urban water use in the Sacramento area with monthly summer irrigation volumes exceeding interior residential use by as much as 4 to1. This effort will involve all segments of the landscape industry in a multi-year effort to improve the design of urban landscapes and irrigation efficiency. The effort begins with a series of integrated landscape workshops designed for the professional community. The integrated program will be based on the "Green Gardener" program from Santa Barbara and the "Smartscape" program from Arizona. Each session will be designed to encourage consistent horticultural practices compatible with water efficient landscapes. Once developed, it will be offered semi-annually and approved as professional continuing education units. Mr. Timothy Crowley, landscape professional with the City of Folsom and the California Landscape Contractors Association, will be responsible for developing and coordinating the program. See Appendix I for program details and Appendix R for Mr. Crowley's resume. The requested funding amounts are shown in Appendix E.

iii. In an effort to train conservation staff and consultants to implement BMP 9, a Sacramento-based workshop will be developed to introduce the water efficiency principles of CUWCC's forthcoming BMP 9 Guidebook for commercial, industrial, and institutional water efficiency. Workshop topics will include:

- BMP 9 Description and Requirements
- CII Water Use Surveys
- Identification of CII Customers
- Performance Targets
- CII ULFT Replacement
- BMP 9 Exemption

This project will be organized under the leadership of Mr. Charles Pike, longtime national expert on CII programs, chairperson of the Project Advisory Committee for development of the Guidebook, and currently Regional Water Efficiency Manager for San Juan Water District.

For additional expertise, the project will draw on members of CUWCC CII BMP implementation committee.

The requested funding amounts are shown in Appendix E.

d. Regional meter testing evaluation - BMP 3

This project conducts a feasibility study for a regional facility or service to test, calibrate, and maintain water-measuring devices for 350,000 connections. The number of meters and the importance of accurate wholesale, transmission, large commercial, and residential water use measurements will grow substantially in the next few years. Accurate meters are needed to determine the revenue due from customers and to evaluate the effectiveness of water efficiency programs. To meet these objectives a feasibility study is proposed to identify alternatives that will:

- provide field services for source meters and large commercial meters;
- assist in distribution system water audits;

- provide technical guidance in large meter installations;
- determine alternative methods of providing services;
- estimate costs of services and facility;
- identify alternatives for facility users to contribute to cost of services;
- identify funding sources; and
- develop a potential scope of work to implement each alternative.

The requested funding amounts are shown in Appendix E.

Technical/Scientific Merit, Feasibility, Monitoring and Assessment

B.4 Methods Procedures and Facilities

Under the umbrella of the WF Agreement, the 17 signatory water suppliers will implement the water use efficiency measures. Five agencies have spearheaded the program and developed the Cooperative Water Use Efficiency Plan summarized in Appendix P. The purpose of this partnership will be to work together to create more water-aware and water-efficient customers while implementing more cost-efficient and effective water conservation programs.

B.5 Schedule

Please refer to Appendix E.

B.6 Monitoring & Assessment

In addition to specific project meetings, Sacramento area conservation staff regularly attends monthly conservation committee meetings where detailed, technical reviews can be assessed for the successes, challenges, and scheduled activities. These discussions will serve as an early level of review and evaluation between all the participating water suppliers.

a. Meter retrofit of unmetered accounts

San Juan Water District will utilize a computerized database to monitor and track progress as participating water suppliers present their quarterly invoices with supporting documentation. Assessment will compare water use readings from metered connection waters with average water use of unmetered connections for each participating water supplier.

b. Regional water efficiency manager

Annual reports to the USBR and biannual reports to CUWCC will quantify program progress of the regional water efficiency managers. Submitted via the Internet, data will be collected in a common database, which can compare the BMP activities for each reporting agency. Additionally, annual reports will be provided to the WF. The performance standards of the WF Agreement and CUWCC will apply. As a backup to quarterly invoicing, copies of documents and costs attributed to the managers will be submitted annually to DWR.

c. Water efficiency training

i. Develop promotional brochure and multi-media materials: Milestones to be monitored include a focus group identifying the most effective means of presenting concepts and the development, production and distribution of the multi-media materials. Assessment will review costs, response to distribution, and requests by organizations to use the multi-media materials.

ii. Present Water Conservation Level 1 training: Milestones to be monitored during course development include site determination, course scheduling, instructor selection, material preparation, course presentation, and cost sharing with students. Assessment will evaluate the number of WF water suppliers that lack currently certified conservation staff, the number of class participants, and the WF water suppliers represented.

iii. Develop and present Integrated Landscape Workshop: Milestones to be monitored during course development include identification of materials needed, training site determination, selection of landscape sites to survey, course scheduling, instructor selection, materials preparation, course presentation, and cost sharing. Assessment will evaluate the number of class participants, their grasp of the information and techniques presented, cost sharing with students, and the usability of the materials in future workshops statewide.

iv. Train conservation staff and consultants to implement BMP 9: During development and preparation of the course, the following milestones will be monitored: identification of materials needed, site determination, selection of local CII site to survey, course scheduling, instructor selection, materials preparation, course presentation, and cost sharing. Assessment will evaluate the number of class participants, their grasp of the information and techniques presented, cost sharing with students, and the usability of the materials in future workshops.

d. Regional meter testing evaluation

San Juan Water District will use the following milestones to monitor the progress of the feasibility study: project advisory committee selection, scope of study determination, consultant selection, initial consultant contacts with WF water suppliers, development of draft for alternative meter technology/testing approaches and cost estimates, and preparation of final report. The assessment will reflect the ability of WF water suppliers to contribute resources to implement the study recommendations.

SECTION C

Outreach, Community Involvement, and Information Transfer

The continued success of the WF is dependent upon continued communication between all participants. The WF successor effort, funded by the signatories to the WF agreement, will be the mechanism for communication between all partners and meeting the goal of ongoing public outreach. As with the WF, the WF successor effort will be comprised of regional business and agricultural leaders, citizens groups, environmentalists, water purveyors, and local governments in the Sacramento region.

C.1 Outreach in Disadvantaged Communities

The WF will continue to provide water conservation information via community group meetings and follow-up with reporters to place newspaper, television and radio stories at regular intervals. Training course announcements will be distributed at community colleges and other vocational training locations used by minority populations.

C.2 Training, Employment and Capacity Building Potential

a. Meter retrofit of unmetered accounts

Installing 28,780 retrofit meters at five-person hours per meter will result in approximately 143,900 hours of work equal to approximately 70-person years of full-time employment for trades people. Water suppliers and their contractors will hire the workers.

b. Regional water efficiency manager

This project cost shares two new regular full-time employees for three years: a Regional Water Efficiency Manager and the City of Sacramento's Water Conservation Manager. Local water agencies will support 50 percent of the cost for three years. These managers will be instrumental in developing training programs for future employees.

c. Water efficiency training

Targeted audiences include vocational students, water supplier staff, consultants, landscape contractors, landscape maintenance people, and commercial building grounds keepers. Attendance of 20 people is expected at each of the nine training events for a conservative total of 180 participants.

d. Regional meter testing evaluation
Depending on the alternative selected from the feasibility study, four to 10 full-time staff may be required. Potential funding to train and hire future staff (apprentices to skilled trades people) will be identified as part of the study.

C.3 Disseminating Information on the Results of the Project and Promoting their Application
Primary target audiences for information transfer throughout these projects include regional business and agricultural leaders, citizen groups, environmentalists, water purveyors, and local governments in the Sacramento region. The results will be shared with these groups, which comprise organizations in the WF successor effort. The information will be disseminated through repeated invitations for participation using targeted mailing lists, advertising in print media, media relations to generate news stories, and training announcements sent to appropriate mailing lists.

Conservation staff of WF water suppliers will be reached at regular monthly conservation committee meetings where detailed technical reviews can be assessed of the successes, challenges, and scheduled activities.

Announcements of training workshops and classes will be publicized through DWR Water Conservation News as well as communications such as newsletters from CUWCC, ACWA, AWWA, SAWWA, Sacramento County-University of California Cooperative Extension, community colleges, and landscape trade organizations.

After the programs are developed and completed, the results can be shared through AWWA, ACWA, DWR, CIWMB, CUWCC, and at conferences of landscape trade organizations and other resource oriented organizations. Results will also be shared on Internet postings.

The most important audience segment is the customers within the water supplier service areas. This audience will require an intense public information program coordinated through the Sacramento Area Water Works Association (SAWWA), currently supported through the Sacramento Metropolitan Water Authority (soon to be renamed the Regional Water Authority).

C.4 Copies of Letters Sent to Local Land Use Entity, Water District, or other Potentially Impacted or Cooperating Agencies.
Please see Appendix L for support letters, invitation letters and mailing list.

SECTION D
Qualifications of Applicants, Cooperators, and Establishment of Partnerships

D.1 Resumes
Appendix R contains the resumes of the senior staff that will be involved in this project: Charles Pike, the Regional Water Efficiency Manager, hired by San Juan Water District and Timothy Crowley, City of Folsom Water Management Coordinator. Also included is the position description for Conservation Administrator to be hired by the City of Sacramento.

D.2 Roles of External Cooperators
Appendix C lists the roles of the project cooperators.

D.3 Partnerships
The WF Agreement is the primary partnership guiding this proposal. On behalf of the WF signatories, the San Juan Water District will take the lead role of administering all the projects included in this proposal. Such administration will include developing agreements as necessary with participants for their roles in the projects. San Juan will collect and track participant invoices and submit invoices to DWR for payment. Please refer to Section B2 on page 3 for the WF elements.

SECTION E
Costs and Benefits

E.1 Budget Summary and Breakdown
Appendix E represents the composite schedule and quarterly budget for all four of the projects presented in this proposal. It details the costs for each project and the grant funds requested.

Meter Retrofit of Unmetered Accounts
Individual water suppliers will retrofit meters. Some water suppliers use their own field staff, some contract the work, and some have a mixed approach. Appendix M presents sample meter installation costs by several WF signatories. This sample provides the weighted average meter installation costs used in quantifying and assessing the costs and benefits provided in Appendix E.

E.2 Budget Justification
Specifically, the meter retrofit of 28,780 unmetered accounts will reduce water use by 5,100 AFPY. Metering of individual customers is basic to the success of future water efficiency measures. The effectiveness and direction of future measures will, to a large degree, depend on accurate data provided from metered customers. While meter retrofit in the Sacramento region is not cost effective on a local basis, meter retrofit is extremely valuable and fundamental to the WF Agreement, which provides direct benefits to the CALFED Program.

E.3 Benefit Summary and Breakdown
One thousand copies of each of the multi-media materials will be shared with California organizations.

a) Quantifiable assessment of meter retrofit project costs and benefits
Appendix B shows water savings for meter installations. Savings range from 6.7 percent, per the WF Agreement, to 20-40 percent, per the CUWCC "BMP Cost and Savings Study." A comparison is provided: Year 2000 present value benefits of $452,600 (6.7 percent) and $1,351,000 (20 percent). The value used for analysis ($175 per acre-foot) is future conjunctive use costs. Costs reflect the initial meter purchase, installation and costs at unmetered residential accounts. Additional costs borne by water suppliers include the future costs of meter reading, database administration, billing, and meter maintenance. Please see Appendix A for assumptions.

b) Non-quantifiable outcomes and benefits

i. Outcomes and Benefits of the Regional Water Efficiency Managers

San Juan's Regional Water Efficiency Manager serves five water suppliers and will eventually work with 17 water suppliers serving 200,000 customers. (See Appendix P: "Cooperative Water Use Efficiency Plan"). The City of Sacramento Conservation Administrator will serve additional 121,300 customers. These managers will work together to coordinate and assist the other WF signatories to implement the BMPs that are regionally cost efficient. Implementation of this vital element of the WF Agreement is required to achieve the two equal goals of the WF Agreement: "Provide a reliable and safe water supply for the region's economic health and planned development to the year 2030; and preserve the fishery, wildlife, recreational, and

aesthetic values of the Lower American River."

ii. Outcomes, Products and Benefits of Conservation Multi-Media Materials
The multi-media materials and artwork will be distributed to approximately 1,000 water suppliers and made available to other organizations statewide. The DHS reports that there are more than 8,000 distribution systems in California. DWR identifies 440 of these as significantly large enough to require water management plans. The fact that CUWCC has only an estimated 170 members indicates that there are 270 DWR identified agencies and thousands of DHS systems that need to become involved in water efficiency efforts. The results should heighten statewide awareness of the need for water demand management, increased membership in CUWCC, and higher attendance at water efficiency training events. The overall outcome should stretch our existing water supplies by effective demand management and promote a greater acceptance for environmental restoration of Bay-Delta tributary waterways.

iii. Outcomes and Benefits of the Water Conservation Level 1Training
Representatives from 17 Sacramento area water suppliers will likely attend the training and people from other areas will be welcome. The conservation plans required by the WF Agreement coupled with the above-described promotional multi-media materials should inspire utilities to send staff to the training. Staff will then possess the education needed to develop projects acceptable to their board of directors and implement effective water efficiency measures, particularly when guided and coordinated by regional water efficiency managers. The goal of the WF Agreement is to reduce future water consumption by 26 percent through BMP implementation.

iv. Outcomes and Benefits of Integrated Landscape workshops
- Improve the health, appearance and values of landscapes for customers and site managers.
- Promote sustainable landscaping practices, including water efficient landscape principles, green waste reduction practices, irrigation scheduling, and minimizing pollution runoff.
- Encourage integrated BMPs as promoted by the University of California.
- Foster expanded use and promotion of existing demonstration gardens and other facilities.
- Improve the overall awareness of multiple issues in the urban environment.
- Foster a regional approach and continuity to the water efficient landscape message.
- Reduce non-point source pollution and urban run-off to Bay-Delta tributaries.
- Initiate the first alternative program oriented to the professional landscape community in the Sacramento region.

v. Outcomes and Benefits of BMP 9 Workshop
Like the BMP 9 Guidebook, creation of a BMP 9 Workshop will be made available statewide. The workshops will target the hitherto, little-addressed 30 percent of urban water demand that is consumed by commercial, industrial, and institutional customers. Programs of the MWDSC (Sweeten, Pimentel, and others) and the DWR "Study of Potential Water Efficiency Improvements in Commercial Businesses" estimate water savings of 15 to 22 percent. Like other guidebooks and training developed by Pike, Sweeten, CUWCC and DWR, this workshop will most likely be presented to state and national audiences of CUWCC and AWWA. Due to the current energy awareness and the strong interrelationship between water and energy, energy suppliers and their consultants should eagerly adopt the training.

vi. Outcomes and Benefits of Regional Meter Testing Evaluation
The AWWA manual **"**Water Audits and Leak Detection" emphasizes the importance of accurate metering to make accurate distribution system water audits and reduce system losses. With the installation of meters throughout the Sacramento region, distribution system audits

can be made. The audits can be accurate and useful to reduce system losses if modern meter calibration technology is available. The proposed Regional Meter Testing Evaluation will identify the best way to make the technology available. This is an important step to reducing distribution losses. The subsequent step will be to implement the recommendations from the evaluation. Reduction of losses by one percent would save WF suppliers 8,500 AFPY.

vii. Summary of Overall Outcomes and Benefits

Beneficiaries of this project are the people of Placer and Sacramento counties, water suppliers that have signed the WF Agreement, and the environmental systems of the Lower American River and the Bay Delta. Each of the proposed projects (Meter Retrofit, Regional Water Efficiency Managers, Water Efficiency Training, and Regional Meter Technology Center) is a basic foundation block designed to improve water efficiency over the coming years and decades. The goal of the WF Agreement is to reduce future water consumption by 26 percent through BMP implementation. With these projects in place, water efficiency programs can move forward effectively to satisfy future demands and restore environmental resources. During dry years the benefits increase considerably. A critical element of the WF Agreement is to make water available in the Lower American River that will result in dry-year water becoming available for statewide benefit.

Without these basic foundation blocks, water efficiency efforts may suffer stagnation.

E 4. a - d Assessment of Costs and Benefits

Appendix E displays quarterly costs and cost shares for each individual project.

Appendix B displays potential water savings, energy savings, and values of water and energy savings, total annual benefits, annual costs, present value of discounted benefits and the grant support calculation for the meter retrofit project.

Appendix M develops weighted average meter installation costs for six water suppliers with sample detailed estimates.

Appendix N details training project estimated costs and local contributions.

Appendixes

Appendix A Assumptions of Cost and Benefit Assessment

- Quantify water savings:
  Water savings for metering range from 6.7% per the WF Agreement, to 20-40% per the CUWCC "BMP Cost and Savings Study." To be consistent with the WF Agreement this proposal uses 6.7 percent.

- Avoided water costs are those marginal costs for the next source of water ($175 per acre foot) identified as the Sacramento North Area conjunctive use project per personal communication with Montgomery Watson.

- Average cost of meter installation is $550 as displayed in Appendix M.

- Useful lifetime of meters is 20 years.

- Value of avoided cost of water (or other charges) to customers is zero due to current flat rates.

- Value of water remaining in Lower American River to Environmental Water Account
  Value is $80 per acre-foot for North of Delta water per 1/11/2001 personal communication with DWR Environmental Water Account Coordinator.

- Value of water remaining in Lower American River for electrical power generation at Folsom and Nimbus Power plants. Average of (292-260) 276 kilowatt Hours per AF at Folsom and an additional 34 kilowatt Hours per AF at Nimbus. Electricity valued at $28 per Mwh ($0.28 per kwh) based on Preference Power Rate to Western Area Power Administration by USBR. All information was provided by the USBR.

- From WF conservation plans, 71 percent of meters to be installed in first three years are fed by Folsom Reservoir water.

- Value of water remaining in Lower American River for recreation-not quantified.

- Value of water remaining in Lower American River for anadromous fisheries-not quantified.

- System operators have not determined value of avoided pumping charges for transmitting wastewater to Sacramento or Roseville wastewater treatment plants.

- Value of avoided wastewater treatment charges to residential customers - not quantify able due to flat wastewater rate. The change in hydraulic flow is small compared to the Sacramento Regional plant wet weather design flow (450 MGD) or the average flow of 150 MGD.

- Training classes will average 20 people per class and will provide fees and in kind services equivalent to $50 per person.

Appendix B

Meter Retrofit Benefit & Cost Distribution

Benefits and Costs	Retrofit Meters at Water Forum Benefit Rate = 6.7 %	Retrofit Meters at CUWCC Benefit Rate=20%
Water Use AF/year/ Residential Customer	0.9	0.9
Water Savings from meters Percent	6.7	20
AF Savings per year per meter	0.0603	0.18
Number of units (meter retrofits)	28,779	28,779
Annual Savings AF	1,735.37	5,180.22
Avoided Average Water Cost to Suppliers $/AF	$175	$175
Annual Avoided cost to supplier	$303,690	$906,539
Annual Avoided cost to customer zero due to current flat rate	$0	$0
Annual Environmental Water Value $80/AF	$138,830	$414,418
Annual USBR Folsom Power Sales at $8.18/AF	$10,079	$30,066
Total Annual Benefit $	$452,599	$1,351,042
Annual meter reading and billing administration cost at $7.30 per meter	$210,087	$210,087
Annual Benefits Minus Annual Costs	$242,512	$1,140,955
Lifetime of measure in years	20	20
Year 2000 Present Value of Benefits with 6% discount	$2,781,597	$13,086,665
Benefit per unit	$97	$455
Weighted average cost per installed meter	$550	$550
Grant Support = Present Value of Benefits per unit - Weighted Average Cost per Meter	**$454**	**$96**

Appendix C Roles of Cooperators

Proposed Water Use Efficiency Projects

Expected Cooperators	Meter Retrofit of Unmetered Accounts	Regional Water Efficiency Manager	Develop Promotional media and present Conservation Level 1 Training	Integrated Landscape Workshops	Develop Commercial, Industrial, and Institutional Efficiency Workshops	Feasibility Study for Regional Meter Testing Facility
California Integrated Waste Management Board				**L**		
Arden Cordova Water Service	**I**		**p**	**p**	**p**	
Carmichael Water District	**I**		**p**	**p**	**p**	
Citizens Utilities	**I**		**p**	**p**	**p**	
Citrus Heights Water District	**I**		**p**	**p**	**p**	
City of Folsom	**I**		**p**	**L**	**p**	
City of Roseville	**I**		**p**	**p**	**p**	**M**
City of Sacramento	**I**	**R**	**p**	**p**	**p**	**M**
County of Sacramento	**I**		**p**	**p**	**p**	
Del Paso Manner County Water District			**p**	**p**	**p**	
Fair Oaks Water District	**I**		**p**	**p**	**p**	
Florin County Water District	**I**		**p**	**p**	**p**	
Natomas Mutual Water Company	**I**		**p**	**p**	**p**	
Northridge Water District	**I**		**p**	**L**	**p**	
Orange Vale Water Company	**I**		**p**	**p**	**p**	
Rio Linda/Elverta Water District	**I**		**p**	**p**	**p**	
Sacramento County U.C. Cooperative Extension				**L**		
San Juan Water District	**I**	**R**	**WE**	**L**	**CII**	**M**
CUWCC (unconfirmed)			**p**		**p**	

CII Leader of CII workshop
I Install water meters
L Contributor to Integrated Landscape Program
M Regional meter testing feasibility study
p Probable project participant
R Employ Regional Water Efficiency Manger
WE Leader of CII workshop

Appendix D Promotion Media Estimate

San Juan Water District
Water Conservation Training Program
Scope of Work

San Juan Water District requested an activity description to research and develop promotional materials targeting water utility top management.

The purpose of the work is to:

- gain the attention of water utility top management and elected officials;
- win their interest in effective demand management measures; and
- support staff participation in training classes.

The need for this proactive approach is reflected by the large number (more than 200 large agencies and many more small ones) of California water utilities that are not members of CUWCC and lack effective conservation programs. These agencies are the target audience.

The following is a summary of the activities recommended and a cost estimate.

Objectives

- To create captivating and appealing materials targeting general managers and elected officials.
- To quickly and effectively educate the audience to win their support water for demand management programs.
- To peak general manager interest in sending their staff to conservation coordinator training program.

Strategy / Approach

Lucy & Company's past experience with similar projects and our research with media production experts show that a call-to-action product such as a CD must have an incentive to open it and view it. Additional research should be conducted prior to developing the content and packaging of the materials.

A modified focus group is recommended with the target audiences – general managers and elected water officials– to determine the appropriate messages, format and length of the materials. Then, the creative concept, script, production and distribution would be designed and implemented.

Stakeholder Research

To gauge perceptions for the media, a modified focus group of 10-15 general managers is proposed. The focus group would probe managers about messaging, length, incentives, packaging, etc. The following tasks would be completed:

- recruitment;
- questionnaire;
- moderation;
- facility arrangements;
- video taping;
- transcribing; and
- final report.

Media
To ensure the multi-media materials are engaging and accomplish the objectives, a creative concept must be developed that is fast paced and energetic. Then, the script and visual and audio components would be identified and added. The following tasks would be completed:

- creative concept;
- script and content;
- visual and audio direction;
- editing, review and refinement;
- media label design; and
- 1,000 copies.

Brochure
To inform and educate all target audiences about the Water Conservation Training Program, a training program brochure should be written, designed and printed. The brochure would also include information about how to sign up for the training program. The following tasks would be completed:

- copy writing;
- design; and
- printing.

Distribution Plan
To ensure the materials do not sit on the shelf, a distribution plan should be developed to identify the best methods for disseminating the materials to the target audiences. The plan would help ensure that the materials are distributed. The following tasks would be completed:

- distribution plan development;
- envelope design and printing; and
- distribution.

Project Management
This includes developing a project schedule and activity timeline, attending project team meetings, creating monthly activity reports and managing the project budget and other pertinent tasks. This includes client communications and reviewing project background materials. A final summary would be created for the entire public outreach/involvement process.

ACTIVITY	SPECIFICATIONS	Consultant	Vendors
Stakeholder Research Principal-12 Account Supervisor-15 Account Executive-16	Coordinate a modified* focus group of 10-15 general managers and executives. Tasks include recruitment, questionnaire development, focus group moderation, facility arrangements, and video taping, transcribing and final report.	$4,555	$4,000
Media Production Principal-10 Account Supervisor-18 Account Executive-44 Account Assistant-23	Based on the outcome of the focus group research. Tasks include creative concept, script and content development, visual and audio direction, editing, review and refinement	$8,360	$18,200
Brochure Development Principal-5 Account Supervisor-10 Account Executive-14 Administrative-15	Write, print and design 1,000 training program brochures; 8 ½ X 14" four-color, folded.	$3,590	$2,600
Distribution Plan Principal-3 Account Supervisor-5 Account Executive-5	Develop a distribution plan that identifies methods for disseminating the materials to the target audiences; includes design of 5 X 7" two-color envelope and distribution of up to 1,000 packets.	$1,355	$1,550
Project Management Principal-8 Account Supervisor-10 Account Executive-10 Special Projects-8 Administrative-20	Develop a project schedule and activity timeline, attend up to five project team meetings, create monthly activity reports, and manage the project budget and other pertinent tasks. Based on a four-month program.	$4,520	0
Incidentals	Postage, copies, couriers, color print outs and other incidentals. Only expenses actually incurred will be billed.	0	$1,500
Sub-Total		$22,380	$27,850
TOTAL			**$50,230**

Appendix E: Budget and Schedule for Proposed Projects

2/9/01

Proposed Project	July-Sept 2001	Oct-Dec 2001	Jan-Mar 2002	Apr - June 2002	July-Sept 2002	Oct -Dec 2002	Jan-Mar 2003	Mar - June 2003	July-Sept 2003	Oct -Dec 2003	Jan-Mar 2004	Jan - June 2004	Subtotals
Meter Retrofit (tentative participants)	install meters	install meters	install meters	install meters	install meters	install meters	install meters	install meters	install meters	install meters	install meters	install meters	
Fair Oaks		100	100	150	100	100	100	138	205	205	205	216	1,619
Citrus Heights	750	750	750	750	750	750	750	750	750	750	750	750	9,000
Roseville	100	200	200	200	370	370	370	370	370	370	370	370	3,660
City of Sacramento	50	50	100	50	50	50	100	50	50	50	100	50	750
Orange Vale	315	335	335	335	335	335	335	335	335	335	335	335	4,000
Carmichael		250	250	250		250	250	250	250	250	250		2,250
Citizens Utilities	375	375	375	375	375	375	375	375	375	375	375	375	4,500
Northridge	250	250	250	250	250	250	250	250	250	250	250	250	3,000
Subtotal: meters retrofitted	1,840	2,310	2,360	2,360	2,230	2,480	2,530	2,518	2,585	2,585	2,635	2,346	28,779
Subtotal cost of retrofit	$1,012,529	$1,271,164	$1,298,678	$1,298,678	$1,227,141	$1,364,712	$1,392,227	$1,385,623	$1,422,493	$1,422,493	$1,450,007	$1,290,974	$15,836,718
Meters supported by CALFED	920	1,155	1,180	1,180	1,115	1,240	1,265	1,259	1,293	1,293	1,318	1,173	14,390
CALFED Meter support grant	$417,343	$523,947	$535,288	$535,288	$505,801	$562,506	$573,846	$571,125	$586,321	$586,321	$597,662	$532,112	**$6,527,560**
Regional Water Efficiency Manger	$27,495	$27,495	$27,495	$27,495	$28,320	$28,320	$28,320	$28,320	$29,169	$29,169	$29,169	$29,169	$339,937
City of Sacramento Conservation Coordinator	$21,125	$21,125	$21,125	$21,125	$21,759	$21,759	$21,759	$21,759	$22,412	$22,412	$22,412	$22,412	$261,181
Subtotal cost of Efficiency Managers	$48,620	$48,620	$48,620	$48,620	$50,079	$50,079	$50,079	$50,079	$51,581	$51,581	$51,581	$51,581	$601,118
CALFED support grant	$24,310	$24,310	$24,310	$24,310	$25,039	$25,039	$25,039	$25,039	$25,790	$25,790	$25,790	$25,790	**$300,559**
Water Efficiency Training													
Conservation Training & Promotion Materials		develop Executive promo materials, $50,230	present workshop, $5,000 from CUWCC			present workshop, $5,000							$60,230
Landscape Irrigation Industry Training		develop materials, $30,000	present training $14,500			present training, $14,500	present training, $14,500			present training, $14,500	present training, $14,500		$102,500
BMP 9 Workshop and Materials				develop materials, $25,000	present workshop, $5000					present workshop, $5000			$35,000
Subtotal cost of training		$80,230	$19,500	$25,000	$5,000	$19,500	$5,000			$19,500	$19,500		$193,230
CALFED support grant		$69,707	$17,500	$25,000	$4,000	$17,500	$4,000			$17,500	$18,500		**$173,707**
Regional Meter Testing Evaluation									develop scope of work	feasibility study	study report, $30,000		
Subtotal cost of training											$30,000		$30,000
CALFED support grant											$30,000		**$30,000**
TOTAL CALFED GRANTS REQUESTED													**$7,031,827**

Appendix* E: responding to sections B3, B5, E1, E3 and E4

*CALFED Meter Support Grant = (meters retrofitted /2) X $454

Applicant Cost Share = Total Cost of Metro Retrofit – CALFED Meter Support Grant

Appendix F Water Forum Stakeholders

Water Interests
Arcade Water District
Arden-Cordova Water Service
Carmichael Water District
Citizens Utilities
Citrus Heights Water District
City of Folsom
City of Galt
City of Roseville
Clay Water District
Del Paso Manor County Water District
El Dorado County Water Agency
El Dorado Irrigation Distirct
Fair Oaks Water District
Florin County Water District
Galt Irrigation District
Georgetown Divide Public Utility District
Natomas Central Mutual Water Company
Northridge Water District
Omochumne-Hartnell Water District
Orange Vale Water Company
Placer County Water Agency
Rancho Murieta Community Services District
Rio Linda/Elverta Community Water District
Sacramento County Farm Bureau
Sacramento Metropolitan Water Authority
San Juan Water District

Business Interests
Associated General Contractors
Building Industry Association of Superior California
Business Caucus
Sacramento Association of Realtors
Sacramento Metropoitan Chamber of Commerce
Sacramento – Sierra Building & Construction Trades Council

Environmental Interests
Environmental Council of Sacramento
Friends of the River
Save the American River Association, Inc.
Sierra Club – Mother Lode Chapter

Public Interests

City of Sacramento
County of Sacramento
League of Women Voters of Sacramento
Sacramento County Aliance of Neighborhoods
Sacramento County Taxpayers League
Sacramento Municipal Utility District

Appendix L
Supporting Letters and Mailing List

January 25, 2001

Mr. Michael Phelan
Rio Linda/Elverta Water District
730 L Street
Rio Linda, CA 95673-3496

Dear Michael:

As a Water Forum participant, your agency is invited to participate with San Juan Water District to obtain a Water Use Efficiency Grant from the CALFED Bay-Delta Program. The money will be used to accelerate implementation of the Water Conservation Element of the Sacramento Water Forum. The four proposed elements will expand our ability to cost effectively achieve water and energy efficiency for our water utilities and customers.

The CALFED Bay-Delta Program is a cooperative effort of state and federal agencies to restore ecological health and improve water management for beneficial uses of the Bay-Delta system. It's major objectives are: ecosystem quality, water supply, water quality, and levee system integrity. On January 2, 2001 CALFED released its Proposal Solicitation Package inviting proposals to accelerate the implementation of cost-effective actions to conserve and recycle water.

The schedule for the grant process is:

Jan. 30, 2001	Your comments due to San Juan water District
Feb. 15,	Proposals due to the Department of Water Resources
before March 16	State legislature appropriate funds for the grant program.
March 16	Funding decisions made by CALFED
June 15	Final contracts with CALFED executed.
Aug. 1	Local cooperative agreements completed
September 1	Local projects begin

Attached is a summary of our proposal. We outlined it in our earlier conversations, at the January 4 Water Forum Plenary meeting, and at the January 17 Sacramento Area Water Works Association Water Conservation Committee meeting.

Your feedback is urged - especially the number of meters you plan to install from Sept. 2001 through June 2004. We encourage you to participate in this project. There is something there for every water agency.

To discuss the project and get more information, please contact myself or San Juan's Regional

Water Efficiency Manager, Charlie Pike at 916-791-0115 ext. 3139 or email cpike@sjwd.org.

Sincerely,

Jim English

Addresses for January 25, 2001 Letter

Mr. Jim Carson
Arden-Cordova Water Service
3140 Gold Canal Drive, Suite 30
Rancho Cordova, CA 95670

Ms. LaNell Little
Carmichael Water District
P. O. Box 929
Carmichael, CA, 95609

Mr. Robert Roscoe
Citizens Utilities
4701 Beloit Drive
Sacramento, CA 95938

Mr. Bob Churchill
Citrus Heights
6230 Sylvan Road
Citrus Heights, CA 95611-0286

Mr. Gordon Tornberg
City of Folsom
50 Natoma Street
Folsom, CA 95630

Mr. Derrick Whitehead
City of Roseville
2005 Hilltop Circle
Roseville, CA 95747

Mr. Jim Sequeira
City of Sacramento
1395 35th Avenue
Sacramento, CA 95822

Mr. Keith Devore
County of Sacramento
827 7th Street
Sacramento, CA 95814

Mr. Roger Nelson
Del Paso Manor County Water District
4268 Lusk Drive
Sacramento, CA 95864

Mr. Richard Plecker
Fair Oaks Water District
10317 Fair Oaks Blvd.
Fair Oaks, CA 95628

Mr. Rick Bedal
Florin County Water District
P. O. Box 292055
Sacramento, CA 95829

Mr. Peter Hughes
Natomas Mutual Water Company
2601 West Elkhorn Blvd.
Rio Linda, CA 95673

Mr. Dewight Kramer
Northridge Water District
P. O. Box 41258
Sacramento, CA 95841

Ms. Sharon Wilcox
Orange Vale Water Company
P. O. Box 195
Orangevale, CA 95662-0195

Mr. Michael Phelan
Rio Linda / Elverta Water District
730 L Street
Rio Linda, CA 95673-3496

Preliminary

Sacramento Water Forum Water Efficiency Proposal for Cal Fed Water Use Efficiency Grant

This proposal responds to the January 2, 2001 CALFED Proposal Solicitation Package for Water Use Efficiency. It is due for submission to the California Department of Water Resources by February 15, 2001. CALFED plans to announce grant winners and amounts in March 2001.

All of the below described elements are intended to assist Sacramento Water Interests meet the Conservation and Environmental Elements of the Water Forum Agreement. When more grant opportunities are announced, San Juan Water District will again assist Water Forum signatories to secure funding to implement the Water Forum Agreement.

1. Meter Retrofit of Unmetered Accounts - BMP 4

Support the purchase and installation of 5,000 residential meters at currently unmetered accounts within the three year CALFED contract period (July 2001-June 2004). The grant money will support the project at the rate of $400 per meter. Up to ten percent of the meters may be installed as dedicated landscape meters for CII customers and will be supported at the rate of $500 per meter. To qualify, potential participants:

- $ Must have signed the Water Forum Agreement
- $ Must be a water utility that has submitted a "Water Forum Water Conservation Plan."
- $ Finance the "up front" costs of meter purchase and installation, since CALFED grants are reimbursed many months after completion. Invoices may be submitted quarterly.
- $ Confirm installation by providing evidence of two consecutive meter reads demonstrating the capability to provide customers with billing notices showing water use in gallons per day.

2. Regional Water Efficiency Coordinator - CUWCC BMP 12

Support hiring a regional water conservation manager and a City of Sacramento water conservation manager to coordinate cooperative cost effective approaches to implement the conservation element of the Water Forum Agreement. Since January 1, 2001, San Juan Water District has employed a highly qualified regional water efficiency manager. During January and February 2001, the City of Sacramento has interviewed applicants for a full time conservation administrator, who will be working by July 1, 2001. These managers will work with the forum signatories to implement the best management practices for efficient water use by residential, commercial, industrial and institutional customers. This element proposes funding 25 percent of the salaries and benefits for two years for both water efficiency managers.

3. Water Efficiency Training BMPs 5, 9, 12

3. In Sacramento, provide the Water Conservation Certification Level 1 training for water utility staff and other water use professionals. Underwrite the cost of this intense two-day workshop that covers: state and regional water issues; efficiency measures for residential, commercial, industrial, and institutional customers; landscape planning and irrigation principals; and program planning. The workshop will be coordinated with the CUWCC or other appropriate organization in preparation for the American Water Works Association Water Conservation Level 1 certification exam.

4. In Sacramento, develop and provide a workshop introducing the water efficiency principals of the forthcoming BMP 9 Guidebook for commercial, industrial, and institutional water efficiency being developed by the California Urban Water Conservation Council. The workshop will present to Forum signatories the basic marketing and cooperative requirements for effective programs with energy and wastewater utilities.

5. In Sacramento, develop and provide a series of classes (some for CEU credits) for landscape professionals to improve water efficiency services. Classes will involve University Cooperative Extension, community colleges, and the green industry.

4. Regional Meter Testing Facility BMP 3

Conduct a feasibility study for a regional facility/service to test, calibrate, and maintain water measuring devices. The number of meters and the importance of accurate wholesale, transmission intertie, large commercial, and residential water use measurements will grow substantially in the next few years. Accurate meters are needed to collect all the revenue due from customers and to evaluate the effectiveness of water efficiency programs. To meet these objectives a feasibility study is proposed to identify services that will:

5. Provide field services for source meters and large commercial meters
6. Assist in distribution system water audits
7. Provide technical guidance in large meter installations
8. Determine alternative methods of providing services
9. Estimate costs of services and facility
10. Identify alternatives for facility users to contribute to cost of services
11. Identify funding sources
12. Develop a potential scope of work to implement each alternative.

Appendix M

Sample Meter Installation Costs

	# meters	materials	labor + equipment + contingency	**Estimated cost for complete installation**	subtotal for installation
Citrus Heights Water District	931	200	854.15	1,054	$981,415
City of Folsom	859			644	$553,400
Roseville full installation	11,000	245	429	674	$7,414,000
Roseville site ready	3,700	124	37	161	$595,700
City of Sacramento	250			400	$100,000
City of Sacramento	250			900	$225,000
Citizens Utilities	4,500			500	$2,250,000
Carmichael Water District	200	210.5	932.1	1142.6	$228,520
Carmichael Water District	300	210.5	529.1	739.6	$221,880
Carmichael Water District	1,500	210.5	133.1	343.6	$515,400
subtotal (excluding high and low installation values)	21,059				$11,588,500
Weighted Average meter installation cost					**$550**

Appendix M
Carmichael Water District

Meter Installation Cost for 2001-2004

Meter Installation Planned:

2001	2002	2003	2004	Total
500	500	500	500	2,000

Meter Cost based on 1" meter:

Material:

1- 1" x 12" Meter Setter	**$ 75.00**
1- 1" Touch Read Meter	**$105.00**
1- Meter Box	**$ 25.00**
1- 1" SCH 80 Male Adapter	**$ 2.50**
2- 1" SCH 40 Slp x Slp 90	**$ 1.00**
2- 2x6x12 Con Common Redwood	**$ 2.00**
Total Material Cost	**$210.50**

Labor Cost:

2 Service Personnel x 2.5/hrs. @ $23.02/hr.	**$115.10**

Landscaping:

Based Lawn location	**$ 18.00**
Based on Paving location	**$414.00**
Based on Concrete Driveway location	**$817.00**

Total meter installation based on 1" meter by location:

Materials	**$210.50**	**Materials**	**$210.50**	**Materials**	**$ 210.50**
Labor	**$115.10**	**Labor**	**$115.10**	**Labor**	**$ 115.10**
Lawn	**$ 18.00**	**Paving**	**$414.00**	**Concrete**	**$ 817.00**
Total	**$343.60**	**Total**	**$739.60**	**Total**	**$1,142.60**

Total cost for proposed meter installation 2001-2004 based on installation by location:

Lawn	1,500 x 343.60	=$515,400.00
Paving	300 x 739.60	=$221,880.00
Concrete	200 x 1,142.60	=$228,520.00
Total		**$965,800.00**

Appendix N

Training Project Estimated Costs

Activity	Consultants	Instructors with travel expense	Materials	Site Use and Equipment	Subtotal	Local Contribution	CALFED Grant
Develop Conservation Promotional Media	21,070		29,160		50,230	(5,023)	45,207
Present Conservation Level 1 training per event		2,500	1,500	1,000	5,000	(1,000)	
Two Level 1 classes					10,000	(2,000)	8,000
Develop Integrated landscape Workshops	30,000				30,000	(3,000)	27,000
Integrated Landscape Workshops per series	5,000	5,000	2,000	2,500	14,500	(1,000)	
Five Integrated Landscape Workshops series					72,500	(5,000)	67,500
Develop BMP 9 Workshop	25,000				25,000	(2,500)	22,500
Present BMP 9 Workshop		2,500	1,500	1,000	5,000	(1,000)	
Two BMP 9 Workshops					10000	(2000)	8,000
Subtotals for Training Project					$197,730	$19,523	$178,207

Appendix P

Cooperative Water Use Efficiency Plan: Best Management Practices and Urban Water Management Plan

Working together to create more water aware and water efficient customers while implementing a more cost-efficient and effective water use efficiency program

Spearheaded by San Juan Water District in cooperation with:

Citrus Heights Water District

Fair Oaks Water District

Northridge Water District

Orange Vale Water Company

Introduction

San Juan Water District and its retail water suppliers – commonly called the San Juan Family of Water Agencies – realize the customer and community benefits of a strategic and cooperative water use efficiency program. As part of a strategic planning retreat for the family of water agencies in August 1999, the agencies determined that it would be beneficial and cost effective to implement a cooperative Best Management Practices (BMP) program to address long-term water use efficiency. To initiate the process, an ad hoc water use efficiency committee was formed to work with Lucy Eidam of Lucy & Company to develop and present a cooperative BMP implementation plan.

Over the past six months, the ad hoc water use efficiency committee has participated in a series of planning meetings where details for developing the plan were discussed. During this time, the committee members also determined that San Juan Water District (SJWD) will serve as the business agent for implementing the cooperative BMP program, which includes providing financial, technical and program management support. This is a role wholly supported by the other water suppliers.

An additional component that surfaced as a result of the planning meetings was a realization that it would be strategically sound to also cooperate on a water shortage management plan by implementing the requirements of the state Urban Water Management Planning Act (UWMPA). The act requires each urban water supplier to prepare, update and adopt its Urban Water Management Plan at least once every five years. This applies to suppliers providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually.

Initially, exploration of a cooperative water use efficiency program began with the San Juan family agencies. However, San Juan has expanded the effort to include other interested regional water suppliers. Implementation of water efficiency measures at the participating water supplier facilities will demonstrate good water use efficiency examples to customers and staff. Additionally, if the suppliers work toward a cooperative water use efficiency effort, the result will be more water aware and water efficient customers as well as a more cost-efficient and effective program for all participants.

The following plan is the outcome of a series of meetings with the ad hoc water use efficiency committee. It provides a recommendation about how the suppliers can efficiently work together to implement a cooperative water use efficiency plan that includes a BMP program to address long-term water use efficiency and an Urban Water Management Plan to address short-term water management. The plan is outlined as follows:

- **Section One** addresses the BMP program for the participating water suppliers;
- **Section Two** addresses the development and implementation of an Urban Water; Management Plan; and
- **Section Three** encompasses a staffing plan, budget and schedule.

Section One: BMP Program

The BMPs, established by the California Urban Water Conservation Council (CUWCC), require water suppliers that are signatories to the BMPs to develop and implement long-term comprehensive water use efficiency programs to increase efficient water use. Suppliers that are signatories to the Water Forum agreement or receive water from the US Bureau of Reclamation are also required to implement the 14 BMPs. Since each family agency is a signatory to at least one of the three agreements (CUWCC, Water Forum and USBR), they are all required to comply with the BMPs.

The suppliers involved with developing the cooperative process are at various stages of implementing the BMPs. Currently, San Juan Water District (SJWD) is implementing all of the BMPs and has the systems and programs in place to be used as a model for a cooperative BMP program. While the

participating water suppliers are keenly interested in implementing and complying with the BMPs, there are some BMPs that require information that is compiled through water meter data. Since none of the suppliers are fully metered, the suppliers have agreed to develop tactics that will meet the intent of complying with these BMPs.

As part of the process to develop the cooperative BMP program, the ad hoc water use efficiency committee agreed upon the following:

- At least one water use efficiency coordinator will still be necessary for each supplier.
- Although every BMP cannot be implemented to its exact specifications, the intent of it will be fully implemented.
- SJWD will be the business agent for overall management of a centralized BMP program including providing oversight of supplier-specific programs; and training and arranging programs for the water use efficiency coordinators.
- In cooperation with water supplier water use efficiency coordinators, SJWD will compile the annual reports to be submitted to CUWCC, USBR or the Water Forum using the data supplied by each supplier.
- Participation in the BMP implementation program will be subscription based (suppliers will pay into the programs they want to support.)

Cooperative BMP Program Goal

The participating water suppliers will implement a cooperative Best Management Practices program that is cost-effective, efficient and compliant which results in the efficient use of water by participating water suppliers and their residential, commercial, industrial and institutional customers.

Objectives

- To identify which BMPs should be implemented on a joint level and those best conducted independently by each supplier (or a combination of both).
- To consolidate efforts and eliminate the overlap of services, where possible.
- To hire a water use efficiency manager to oversee the implementation of the BMPs for the family of water agencies. The water use efficiency manager's responsibilities will include:

– managing all water demand aspects, including both long-term and short-term water management planning and implementation.
– adhering to the objectives of the BMPs and developing systems to meet them.
– overseeing the implementation of the cooperative BMP process.
– managing independent contractors.
– obtaining information for and developing a quarterly report for use by each water supplier.
– tracking the progress of the supplier-implemented and cooperative BMPs.
– compiling supplier and cooperative data.
– following USBR, CUWCC and Water Forum procedures, rules, etc.
– developing a draft annual report for each supplier.
– overseeing and completing the final annual report.
– coordinating and facilitating monthly water use efficiency coordinator meetings.
– developing training sessions for the water use efficiency coordinators.
– reviewing and providing input about materials developed for public distribution.
– keeping current and informed about new trends (appt. on statewide committees).
– providing presentations and reports to various boards, community organizations, professional groups and agencies.
– providing statewide representation.

BMP Implementation at a Glance

Some BMPs are best suited for implementation through a joint process, while others are better implemented by each supplier independently. However, a few BMPs fall into both categories with some of their components best implemented jointly and other components better conducted independently at a supplier level. In order to comply with the BMPs, the suppliers have developed tactics that will meet the intent of each BMP.

As part of the BMP review process, the BMPs were defined into four categories:

Category Definitions

Jointly Implemented – BMPs that feature components, activities and/or projects that will be commonly managed, implemented and shared.

Independently Implemented – BMPs that feature components, activities and/or projects that will independently managed and implemented by each individual supplier.

Jointly/Independently Implemented – BMPs that feature components, activities and/or projects within a BMP that will be jointly managed and implemented; other components, activities and/or projects of the BMP will be independently managed and implemented by each supplier.

Explore Partnerships: BMPs that feature components, activities and/or projects where the participating suppliers will jointly pursue partnerships to comply with or meet the intent of the BMP requirements. The group will explore partnerships for two costly BMPs.

The plan outlines a series of tactics to assist the participating water suppliers with meeting each BMP as described below.

BMPs to be Jointly Implemented

- Water survey programs for single-family residential and multi-family residential customers (BMP 1)
- Public information programs (BMP 7)
- School education programs (BMP 8)
- Water use efficiency programs for commercial, industrial and institutional accounts (BMP 9)
- Wholesale supplier assistance programs (BMP 10)
- Water waste prohibition (BMP 13)

BMPs to be Independently Implemented

- Residential plumbing retrofit (BMP 2)
- Metering with commodity rates (BMP 4)
- Conservation pricing (BMP 11)

BMPs to be Jointly/Independently Implemented

- Large landscape water use efficiency programs (BMP 5)
- Water use efficiency coordinator (BMP 12)
- System water use surveys, leak detection and repair (BMP 3)

BMPs for which to Explore Partnerships

- Washing machine rebate program (BMP 6)
- Residential ULFT toilet replacement program (BMP 14)

Appendix R Resumes and Job Descriptions

CHARLES W. PIKE
Regional Water Efficiency Manager
San Juan Water District

9935 Auburn Folsom Road 916-791-2663 ext. 3139
Granite Bay, CA 95746 e-mail: cpike@sjwd.org

Summary: Water Use Efficiency Professional with 15 years in the California Department of Water Resources. Now guiding Sacramento Water Forum signatories to implement the water efficiency plans of the Water Forum Agreement.

Experience:

California Department of Water Resources, Water Use Efficiency Office

Created the Water Conservation Practitioner Certification standards and examination with the American Water Works Association (AWWA) Conservation Certification committee. Developed and taught Water Conservation Training classes presented to prepare water utility operators, planners and consultants for the certification exams. Class topics included: landscape irrigation, California hydrology, residential water uses; distribution system water loss reduction; and water efficiency programs for businesses.

Administered a $1.9 million leak detection grant program to 57 local agencies. Highly successful, the program found 3,300 leaks worth $4,300,000. Analyzed water supply savings from meter calibration, leak detection, and repairs.

BMP 9 Project Advisory Committee Chairperson developing the new California Urban Water Conservation Council guidebook for utilities implementing the Best Management Practices for Commercial, Industrial, and Institutional water users.

Developed training seminars presented to more than 500 California utilities to reduce their distribution system losses. Taught Water Audit and Leak Detection Workshops for DWR & Cal-Nevada Section AWWA.

Created and managed the Industrial Water Conservation Program to reduce loads of water and wastewater utilities in California. Leverage resources with other agencies to finance projects.

As a Resource Agency Fellow with U. C. Davis, surveyed the California food processing industry to identify market transformation techniques most acceptable to improve energy efficiency, water efficiency, and pollution prevention. The results guided the California Energy Commission study *Energy Management in the Food Processing Industry*.

Secured a $100,000 U.S. EPA grant to identify the types of businesses with the greatest potential for water efficiency improvements and quantify the potential savings in five California metropolitan areas and five other U.S. cities.

Leveraged resources to established the "Government, Utilities, Private Industry Partnership Project" with the City of Ventura. This partnership with Southern California Edison, SoCAL Gas, the City of Ventura and four businesses identified cost effective, site-specific energy and water efficiency improvements. This project was so well accepted by local businesses that the city funded the project to serve additional businesses for two more years without state money.

Acquired a $65,000 US EPA grant to create two books now distributed nationally. *Helping Businesses Manage Water Use - A Guide for Water Utilities* and *Water Efficiency Guide for Business Managers and Facility Engineers*.

Presented workshops, classes and technical talks to such audiences as: World Energy Engineering Congress, American Institute of Plant Engineers, California Institute of Food and Agricultural Research, Pajaro Basin Food Processors, AWWA, WEF, the Texas Special Committee on the Edwards Aquifer, Cooling Tower Institute, and University of Houston.

Evaluated the impacts on land use, water quality, and the timber related economy of including 1,200 miles of California rivers in the National Wild and Scenic Rivers System. Prepared the associated environmental impact statement and environmental impact reports.

Bechtel Corporation Electrical Engineer
Design electrical circuits for nuclear power generating plant. Monitor installation of electrical circuits at a coal fired power-generating plant in Missouri.

Niagara Mohawk Power Corporation Electrical Engineer 1966-1969
Forecast load growth for urban distribution circuits and substations. Design high voltage transmission lines and distribution structures.

AWARDS AND COMMENDATIONS

Selected as Resource Agency Fellow with U. C. Davis July 1996
U. S. Dept. of Energy, Performance Award May 1994
City of Ventura, Commendation October 1993
Outstanding Professional Accomplishment and November 1990 &
State Sustained Superior Accomplishment Award December 2000
Cal-Nevada Section AWWA Chairman's Award October 1987
DWR Unit Citation May 1984
Governor of California, Commendation February 1981

PROFESSIONAL ASSOCIATIONS

American Water Works Association
Water Environmental Federation
California Urban Water Conservation Council
Co-chair the Commercial, Industrial, and Institutional Technical Committee

EDUCATION

University of California at Berkeley, B.S. Forestry
Worcester Polytechnic Institute, B.S. Electrical Engineering

Appendix R

Resume

Timothy D. Crowley
Water Management Coordinator
City of Folsom, CA

Education:

B.S. Business Administration
A.S. Ornamental Horticulture
Extensive additional college coursework in the Biological Sciences, Horticulture and Education

Experience:

Over 25 years of experience in the landscape industry. As the owner/operator of a professional landscape company for 17 years, I have been included in all aspects of the Green Industry. In addition to performing routine landscape services, I have been involved with site management consultation. As Project Coordinator for the Northridge Gardens, a local demonstration garden, I worked with the site development team, manufacturers representatives, and contractors to develop a public garden dedicated to water efficient landscaping techniques.

Past experience teaching and coordinating several horticulture classes on a variety of subjects with local community colleges and the University of California Extension and Cooperative Extension. Numerous presentation with local professional associations on issues involved with tree selection and care, lawn care, and water conservation.

Currently working with the City of Folsom to coordinate the water conservation program, and compliance with the Best Management Practices being implemented locally and statewide. In addition to conducting field surveys of residential and commercial landscape irrigation systems, the program is being developed to include comprehensive educational programs for City residents.

Licensing and Certification:

Calif. Landscape Contractor (C-27)
Certified Landscape Irrigation Auditor (IA)
Conservation Practitioner Level 1 (AWWA)
Calif. Community College Instructor Credential
Certified Arborist (ISA)
Calif. Pest Control Adviser / Qualified Application Licenses (DPR)

Public Works 916-355-7272 / Fax 916-351-0525

Appendix I Integrated Landscape Workshops

LANDSCAPE WORKSHOP
SERIES
PROPOSED 2001-2002 FY BUDGET

Cost of Project:

Staff time for program development/Administration*	$ 30,000.00
Print material/Binders for Professionals	4,000.00
Advertising/Promotional Materials	5,000.00
Stipend to class teachers(at $ 50.00/hr.)	10,000.00
Partners staff time	10,000.00
Total Project Cost	$ 59,000.00

*Cost to include project review and assistance from outside consultants.

This program is designed to be a regional program which will offer education, training, and continuing education for participating gardeners and landscape contractors to 1) Improve water efficiency and reduce resource use on built landscape sites, 2) Improve the health, appearance and values of landscapes for customers and site managers, 3) Offer training sessions which cover topics on sustainable landscaping practices, including water efficient landscape principles, green waste reduction practices, irrigation scheduling, and minimizing runoff of pollutants from sites. 4) The program will encourage IPM (Integrated Pest Management) principles as promoted by the University of California. Potential partners in this program include member agencies of the Sacramento Area Water Works Association; University of California Cooperative Extension; California Landscape Contractors Association; Pesticide Applicators Professional Association; International Society of Arboriculture; Irrigation Association; California Association of Nurserymen; Community Colleges; and other regional programs (Sacto. Tree Foundation; Roseville Urban Forestry Foundation; Sacramento Stormwater Management Program; California Integrated Waste Management Program and local recycling programs).

Benefits to Program Partners and the Greater Sacramento Region

1. Meet goals of concurrent conservation programs and allow expanded use and promotion of existing demonstration gardens and other facilities.
2. Allow agencies to form professional relationships with the professional landscape community.
3. Improve the overall awareness of multiple issues involved in the urban environment.
4. Foster a 'regional' approach and continuity to the water efficient landscape message.
5. Reduce non-point source pollution and urban run-off to streams and rivers.

Funding Contributions

Possible contributions from SAWWA members.
Fees from training classes.

CITIZENS
water resources

part of the Citizens Utilities family

February 08, 2001

BY FACSIMILE

Mr. James English
General Manager
San Juan Water District
PO Box 2157
Granite Bay, CA 95746

Subject: CALFED Bay-Delta Program
Water Use Efficiency Grant

Dear Jim,

Thank you for your letter dated January 25, 2001, inviting Citizens Utilities to participate with San Juan Water District to obtain a Water Use Efficiency Grant from the CALFED Bay-Delta Program. Submitted with your letter was a four-part proposal.

Citizens Utilities is specifically interested in participating in proposal Item # 1. **Meter Retrofit of Unmetered Accounts – BMP 4.** As part of the Water Forum Agreement, Conservation Element, Citizens Utilities adopted a Water Conservation Plan. Our plan for complying with BMP 4 called for the systematic retrofit of approximately 47, 000 unmetered accounts over a 30-year time period. The estimated annual cost of this program is $766,263. Citizens Utilities has budgeted $750,000 for the year 2001 meter retrofit program. Enclosed please find a draft copy of Citizens Utilities Company, Sacramento District, Metering Trial Balloon, June 27, 1996, which provided detailed estimates of our plan.

If you have any questions, please do not hesitate to contact Johnnie Lane at (916) 568-4200.

Very truly yours,

Robert S. Roscoe, P.E.
General Manager

Encl.

Citizens Utilities Company of California
4701 Beloit Drive • Sacramento, California 95838-2434
PO Box 15468 • Sacramento, California 95851-0468
Tel: (916) 568-4200 • Fax: (916) 568-4260

WATER FORUM

660 J STREET, SUITE 260
SACRAMENTO, CA 95814

PHONE 916/264-1999
FAX 916/264-5266

February 7, 2001

Mr. Jim English, General Manager
San Juan Water District
P.O. Box 2157
Granite Bay, CA 95746

Re: Application for grant funding

Dear Jim:

This is to acknowledge that San Juan Water District has taken a lead role in requesting grant funding from the Department of Water Resources as part of the CALFED Bay-Delta program for four water use efficiency projects that are combined into one funding request. We are pleased to see that San Juan Water District has taken this role. The requested funds will help to further the objectives outlined in the Water Forum Agreement of January 2000. We are also pleased that San Juan is seeking funds on a regional basis that includes benefits to the following Water Forum Agreement signatories:

Arden Cordova Water Service
Carmichael Water District
Citizens Utilities
Citrus Heights Water District
City of Folsom
City of Roseville
City of Sacramento
County of Sacramento
Del Paso Manor County Water District
Fair Oaks Water District
Florin County Water District
Natomas Mutual Water Company
Northridge Water District
Orange Vale Water Company
Rio Linda/Elverta Community Water District

The four projects identified in the grant funding request by San Juan are: Meter Retrofit of Unmetered Accounts (BMP 4); Regional Water Efficiency Manager (CUWCC BMP 12); Water Efficiency Training (BMP's 5,9,12); and a Regional Meter Testing Facility (BMP 3).

Because the grant funding requested are for fundamental tasks that are consistent with the Conservation Element of the Water Forum Agreement, on behalf of the Water Forum Successor Effort, we support and appreciate your efforts.

Sincerely,

Susan Davidson
for Leo Winternitz
Executive Director

cc: WFSE Representatives

CITRUS HEIGHTS WATER DISTRICT

6230 Sylvan Road
P.O. Box 286
Citrus Heights
California
95611-0286

phone
916/ 725-6873
fax
916/ 725-0345
website
www.chwd.org

January 30, 2001

Mr. James R. English, General Manager
San Juan Water District
P.O. Box 2157
Granite Bay, CA 95746

Re: Water Use Efficiency Grant

Dear Jim:

Thank you for your invitation to participate with other Sacramento Water Forum signatories to request a Cal Fed Water Use Efficiency Grant to promote regional water efficiency programs.

The District wholeheartedly supports those program elements outlined in the preliminary proposal. The District's initial comments on each of the four elements are as follows:

1. Meter Retrofit of Unmetered Accounts

Citrus Heights Water District is committed to water meter retrofits and can demonstrate its ability to move forward with such projects. We have developed detailed plans, specifications and contract documents to enable the District to successfully accomplish meter retrofits. Our contract meter retrofit project experience is as follows:

Project	Meters	Status
Apartment Complexes	650	Completed 1998
Almaden Place Townhomes	100	Completed 1999
Cirby Ranch #4	105	Completed 1999
Antelope Hills Townhomes	43	Completed 2000
Citrus Heights Neighborhood #7East	931	95% Complete
Carmichael NE	177	Contracted Awarded
Orangevale SW	1,605	Bids Requested
Citrus Heights Neighborhood #8	1,450	Plan Development

Additionally, District personnel are retrofitting existing residential water service connections at a rate of approximately 75 per month.

Citrus Heights Water District currently has 18,934 service connections, 5,143 of which are metered. All commercial, governmental, institutional, and multi-family residential accounts are metered and being billed at commodity rates. **We expect to install an additional 10,780 residential water meters between September 2001 and June 2004.**

The District meets the qualifications to participate in this program element as we are signatory to the Water Forum Agreement, have submitted a Water Forum Water Conservation Plan, are able to finance the "up front" costs of meter purchase and installation, and can confirm installation by providing meter read information.

2. Regional Water Efficiency Coordinator

Citrus Heights Water District supports the hiring of regional water conservation managers to coordinate the water conservation efforts and centralize the data collection/reporting requirements for Water Forum signatories.

3. Water Efficiency Training

Citrus Heights Water District supports the development and implementation of training and certification programs for employees and landscape professionals as a means to enable the Water Forum signatory water agencies to successfully interface with water consumers.

4. Regional Meter Testing Facility

Citrus Heights Water District supports conducting a feasibility study to determine if it would be cost effective to provide, operate and maintain a regional water meter testing facility on behalf of Water Forum signatory water agencies.

Please do not hesitate to call if you have any questions or require our assistance preparing the proposal for the Department of Water Resources.

Sincerely,

Robert A. Churchill
General Manager